

What's Your Radiographic Diagnosis?

by
Dennis Peterson *



Lateral view of proximal neck area.

History and Clinical Findings

A seven year old Quarterhorse mare was presented with the owner's complaint that the animal was suffering infrequent bouts of coughing accompanied by retching and excessive salivation. The owner stated that the mare had been given a "sulfa" bolus¹ per os the previous evening and thereafter began to exhibit the presenting signs. Upon admittance she had an increased

pulse and respiratory rate. The mare also appeared quite apprehensive.

An unsuccessful attempt was made to pass a nasogastric tube. It was not possible to visualize or digitally palpate any object obstructing the esophagus in the jugular furrow area and a radiograph of the rostral neck region was therefore taken. What is your radiographic diagnosis?

Diagnosis

The radiograph confirmed the presence of an oblong mass (bolet) obstructing the esophagus approximately 5 cm. posterior to the caudal end of the larynx.

* Dr. Peterson is a 1973 graduate of Western College of Veterinary Medicine, Saskatoon, Saskatchewan, Canada and presently is a Equine Medicine and Surgery Intern at Iowa State State University.

¹Triple Sulpha bolus, Diamond Laboratories, Des Moines, Iowa.

Treatment

An attempt was made to dislodge the obstruction with the nasogastric tube itself. When this failed water was pumped via the tube against the obstruction hoping to force it down in that manner. However, most of the water went past the obstruction without dislodging it.

After tranquilizing the mare with 250 mg. Promazine² I.V. she was anesthesiologically induced by the rapid intravenous administration of one liter of a solution containing 50 gm. glycerol guaicolate³ plus 2 gm. sodium thiamylal.⁴ She was intubated and maintained for surgery on halothone⁵ gas anesthesia.

The esophagus was exteriorized through a 15 cm. skin incision in the left jugular furrow. It was then possible to locate the mass and break it down manually from the exterior without resecting or invading the esophagus. Water was again pumped through the nasogastric tube, this time forcing the obstructing material down into the stomach. Following surgery the mare's recovery was uneventful and the next day she was eating hay and drinking water normally.

Discussion

This case is rather unrepresentative of one of the great enigmas in veterinary therapy since many similar esophageal conditions are not nearly as easily resolved as was this case. Early treatment for esophageal obstruction is especially critical. The natural physiology of the esophagus largely abets its own destruction around a lodged object. The normal wavelike smooth muscle contractions will become muscle spasms around an object causing

impeded circulation to that area thereby devitalizing it and leading to early necrosis.

Once the stage has been reached where mechanical reduction of the choke is no longer possible, the veterinary surgeon has little recourse but to attempt surgery in an area where surgical intervention carries numerous post-operative dangers.

Although esophagotomy would seem to present a similar surgical challenge to enterotomy, the prognosis on the former procedure is much poorer. First the esophagus, unlike the intestine, lacks a serosa to exude fibrin and thereby help to seal a suture line. There is no homologous in the neck for the greater omentum which possesses strong phagocytic activity and also aids in sealing intestinal suture lines. Blood supply to the esophagus is comparatively poor and therefore healing is slowed. The esophagus undergoes constant movement by lengthening with each inspiration which also tends to retard healing. Likewise, food boluses stretching the sutured area and a continuous flow of saliva often lead to dehiscence and esophageal fistula. In any operation of the esophagus if complete asepsis is not attained, invasion of the fascial planes which carry down directly into the mediastinum can dispose the patient to a fatal mediastinitis. Finally to add even further pessimism to the situation, if success is attained in getting esophagotomy or complete resection to heal the cicatricial manner in which healing occurs often leads to an esophageal stenosis which in turn can lead to repeated choke even on normal feed and the same chain of events can begin again.

References

- Catcott, E. J. and Smithcors, J. F., Editors *Equine Medicine and Surgery*, 2nd Ed. American Veterinary Publications, Inc. Wheaton, Illinois, 1972.
Markowitz, J. et. al. *Experimental Surgery* 5th Ed. The Williams and Wilkins Co., Baltimore, 1964.

² Sparine, Wyeth Laboratories Inc., Philadelphia, Pa.

³ Glycerol Guaiacolate, S. B. Penick Co., New York, N.Y.

⁴ Surital, Parke Davis and Co., Detroit, Michigan.

⁵ Fluothone, Ayerst Laboratories Inc., New York, N.Y.